

APPLICANT(S): VOLOKH, Vladimir
SERIAL NO.: 09/273,468
FILED: March 22, 1999
Page 5

REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. In view of the above amendments and following remarks Favorable reconsideration and allowance of the application are respectfully requested.

Applicant asserts that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 11-20 are pending in the application. Claims 12-15 and 16-20 have been amended.

Applicant respectfully asserts that the amendments to the claims add no new matter.

Clarifying Amendment

Claim 16 has been voluntarily amended to more accurately reflect the subject matter of this claim and its dependent claims 17-20. It is respectfully submitted that this amendment does not narrow the scope of the claims and does not add new matter to the application.

Claim Objections

In the Office Action, the Examiner objected to claims 12-15 and 17-20 under 37 CFR 1.75(c), as being of improper dependent form for failing to limit the subject matter of a previous claim. Claims 12-15 have been amended to be dependent from claim 11, and claims 17-20 have been amended to be dependent from claim 16. Accordingly, Applicant requests withdrawal of the objection.

APPLICANT(S): VOLOKH, Vladimir
SERIAL NO.: 09/273,468
FILED: March 22, 1999
Page 6

CLAIM REJECTIONS

35 U.S.C. § 102 Rejections

Claims 11 - 20 have been rejected under 35 USC §102(b) as allegedly being anticipated by German Patent No. DE3826-239 (DE'239). Applicant respectfully traverses this rejection in view of the remarks that follow. Claims 11-20 recite a "milling cutter" in apposed to DE'239, which describes a drill. A drill and a milling cutter are two fundamentally different tools, which differ in both structure and operation, as described in detail below.

As is well established, in order to successfully assert a prima facie case of anticipation, the Examiner must provide a single prior art document that teaches every element and limitation of the claim or claims being rejected.

Regarding claims 11 and 16, Applicant respectfully disagrees with the Examiner's statement that "DE'239 discloses the claimed invention, as shown in Fig. 3, comprising: at least one tooth including a lateral cutting edge; the tooth face comprising: at least two sections (7,7), a first section (from cutting edge to 6 as shown in Fig. 3) nearest the cutting edge having a convex form, and a second section (7) being concave".

The Abstract of DE'239 recites "A drill of sintered carbide or tool steel, in particular for machining solid metal workpieces, having at least two main cutting edges (2) and two flutes (5) running centrosymmetrically to the longitudinal axis of the drill. The flutes (5) are provided with grooves (7) to facilitate the transport of chips". A drill is defined by "*Machine Tool Operation – part one*", *Henry D. Burghardt et al., McGraw Hill book company, fifth edition, 1959, pp. 173, 180 ("Burghardt")*, attached as Appendix A hereto, as a cutting tool used for producing a circular hole by removing solid metal (p.173). According to Burghardt, the cutting edges of the drill are defined on the point of the drill (p. 180), and the flute is the groove of the drill, which carries out the chips and admits the coolant (p.180). Thus, element (7) shown in Fig. 3 of DE'239 refers to grooves in the flutes (5) of the drill. Element 7 does not refer to sections of the cutting edges (2). The cutting edges (2) of the apparatus disclosed by DE'239 are on the tip of the apparatus, thus, rotating perpendicularly to the drill axis.

APPLICANT(S): VOLOKH, Vladimir

SERIAL NO.: 09/273,468

FILED: March 22, 1999

Page 7

Each of independent claims 11 and 16 recites a milling cutter. Milling Cutters are defined as rotating cylindrical tools with many cutting edges (*Burghardt*, p. 26), attached as Appendix B hereto. A milling cutter may have teeth on the circumferential surface only (plain milling cutter) or the circumferential surface and on one end (end mill). The teeth may be either parallel to the axis of rotation or helical" ("*Kent's Mechanical Engineers' Handbook*", *Colin Carmichael, Twelfth Edition, 1955, pp. 23-48, 23-49*), attached as Appendix C hereto. Each of the teeth of the milling cutter may have a cutting edge.

Each of independent claims 11 and 16 further recites "a lateral cutting edge which rotates about a central cutter axis and cuts generally parallel thereto", in opposed to the cutting edges of the drill disclosed by DE'239, which are on the tip of the drill and cut perpendicularly to the drill axis, as explained above.

DE'239 therefore fails to teach all elements of claims 11 and 16, at least because this reference does not teach "a rotary multi-tooth milling cutter with at least one tooth including a lateral cutting edge which rotates about a central cutter axis and cuts generally parallel thereto". Thus, the Office Action has therefore failed to establish a *prima facie* showing of anticipation of claim 11 and 16 and Applicant respectfully requests that this rejection be withdrawn.

Furthermore, in view of the above discussion, a drill and a milling cutter are two fundamentally different tools, which differ in both structure and operation. Thus, DE'239 teaches away from designing a structure suitable for a milling cutter.

Claims 12-15 depend, directly or indirectly, from claim 11, and claims 17-20 depend, directly or indirectly, from claim 16, and therefore include all the limitations of those claims. Therefore, Applicant respectfully asserts that claims 12-15 and 17-20 are likewise allowable. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejections to independent claim 11 and to claims 12-15 dependent thereon, and to independent claim 16 and to claims dependent thereon.

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Expedited Procedure under 37 CFR 1.116
Group Art Unit 3722

Attorney Docket No.: P-68422-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): VOLOKH, Vladimir Examiner: TSAI, H.

Serial No.: 09/273,468

Filed: March 22, 1999

Title: MILLING CUTTER

AMENDMENT AFTER FINAL OFFICE ACTION

Mail Stop AF
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Amendment is filed in response to the Office Action dated October 22, 2001 issued by the United States Patent and Trademark Office in connection with the above-identified Application. A response to the October 22, 2001 Office Action was due January 22, 2002. According to a Notice of Abandonment, dated September 10, 2002, the Application has been abandoned due to failure to timely reply to the October 22, 2001 Office Action, and the Application has been regarded as abandoned under 35 U.S.C 133 as of April 22, 2002, after six months have passed from the date of the Office action.

The present amendment is being filed together with a Petition for Revival of an Unintentionally Abandoned Application under 37 CFR 1.137(b). A Request for Continued Examination and its associated fee are being submitted concurrently herewith.

In view of the detailed explanation in the Statements Establishing Unintentional Delay filed in support of the Petition for Revival under 37 CFR 1.137(b), Applicant respectfully requests that the unintentionally abandoned Application be Revived under 37 CFR 1.137(b), and that the present Amendment be considered in reply to the Office Action dated October 22, 2001.

APPLICANT(S): VOLOKH, Vladimir

SERIAL NO.: 09/273,468

FILED: March 22, 1999

Page 2

Kindly amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 5 of this paper.